



Application Specification:

GW-15-UBU
July 2009
Supersedes 2/07

Section 07576: GACOFLEX POLYURETHANE ELASTOMERIC COATING SYSTEM FOR VEHICULAR TRAFFIC DECKS AND RAMPS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section describes the requirements for installing a liquid applied traffic bearing membrane. This membrane is suitable for heavy duty, waterproof, wear surfaces such as automobile parking decks, traffic ramps, play grounds, etc. This application is not intended for use over on grade concrete.
- B. This specification is prepared in brief form so it can be used verbatim in the waterproofing section. It is necessary only to make the selections indicated to complete it. Gaco Western's General Instructions, which are incorporated by reference, provide specific detailed instructions for the guidance of contractors and inspectors.
- C. For additional information consult GW-15-INSTR, which includes recommendations on substrate inspection, preparation, and coating application which are specific to this traffic deck system.

1.2 RELATED SECTIONS

- A. Cast-In-Place Concrete: Section 03300
- B. Flashing and Sheet Metal: Section 07600
- C. Drains, Vents, and Penetrations: Section 07700

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's standard submittal package including specification, installation instructions, and general information for each waterproofing material.
- B. Applicator Qualifications: Submit current "Qualified Applicator" certificate from the specified waterproofing manufacturer.
- C. Americans with Disabilities Act (ADA) Recommendations: Prior to installation, submit manufacturers data indicating that the specified waterproofing application conforms to the provisions of the ADA accessibility guidelines as published by the US Access Board, 1331 F St. NW, Suite 1000, Washington, DC 20004-1111.

1.4 QUALIFICATIONS

- A. Primary polyurethane elastomeric coating system shall be of:
 - 1. Single manufacturer. Manufacturer shall have a minimum of 10 years experience in the manufacture of materials of this type.

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2. Applicators shall have a minimum of 5 years experience in the application of waterproofing materials of the type specified. Applicator shall possess a current "Qualified Applicator" certificate from the specified waterproofing manufacturer.
- B. Pre-Bid Conference: 10 working days prior to bid opening there is to be a mandatory Pre-Bid Conference. Anyone not attending the Pre-Bid Conference will not be allowed to bid the project. All products considered an equal to the specified product or any changes in the scope of work installation or specifications must be presented at the Pre-Bid Conference. If a change in the specifications is accepted, it will be considered as an alternate and will be presented as a bid amendment issued 5 working days prior to the bid opening. No other changes to specification or bid documents will be accepted.
 - C. Materials other than specified shall be submitted to the architect/owner for approval no later than ten days prior to bid date. In requesting prior approval, it shall be necessary to submit:
 1. A letter of certification, signed by an officer of the manufacturer, stating that the alternative material is equal to or better than the specified product.
 2. Independent laboratory test data giving physical property values in comparison to the specified material.
 - D. Pre-Installation Conference: Just prior to commencement of the fluid application waterproofing system, meet at the site with a representative of the coating manufacturer, the waterproofing contractor, the general contractor, the architect and other parties affected by this section. Review methods and procedures, substrate conditions, scheduling and safety.
 - E. The static coefficient shall meet the minimum recommendations of the American Disability Act (ADA), for accessible routes, for wet and dry surfaces, and for leather and rubber heel materials.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store all coating materials in the original unopened containers at 50° to 80°F (10° to 27°C) until ready for use.
- B. Follow the special handling or storage requirements of the manufacturer for cold weather, hot weather, etc.
- C. Safety: Refer to all applicable data, including, but not limited to MSDS sheets, PDS sheets, Product labels, specific instructions for specific personal protection requirements.
- D. Ventilation: Provide adequate ventilation.
- E. Environmental requirements: Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

1.6 WARRANTY

A warranty is available for commercial projects only. Contractor must be eligible for, and make application to, Gaco Western, prior to the start of work under this section.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Acceptable Manufacturers:
Gaco Western

2.2 MATERIALS

- A. Concrete Primer/Sealer: GacoFlex U-5677 Polyurethane Concrete Sealer and GacoFlex E-5320 two component Epoxy Concrete Primer.

Alternative Concrete Primer/Sealer: GacoFlex E-5511 Zero VOC, two component 100% solids Epoxy Concrete Primer/Sealer.

B. Polyurethane Base Coating: GacoFlex UB-64 Series two component coating.

C. Polyurethane Top Coating: GacoFlex U-6402 Pewter two-component coating.

D. Base coat UB-64 and top coat U-6402 having the following physical properties:

PROPERTY	VALUE	TEST METHOD
Tensile Strength	2100 ± 100 psi (14.48 ± .69 MPa)	ASTM D-412
Elongation	400% ± 25	ASTM D-412
Permanent Set at Break	15% Max	ASTM D-412
Tear Resistance	375 ± 25pli (66.9 ± 4.5 kg(f) / cm)	ASTM D-624 Die C
Hardness	90 ± 5 Shore A	ASTM D-2240
Water Absorption	2.0%	ASTM D-471 Max. 7 days R.T.
Water Vapor Permeability	0.02 Perm Inches	ASTM E-96 Procedure B Max. 100% R.H. Difference At 23°C

E. Flashing and Joint Reinforcing Fabric: Gaco Western 66B and 66S fabric. GacoFlex NF-621 neoprene sheet flashing and related materials as required for flashing drains, base angles, etc.

F. Granule: GacoShell Granule, a hard (90 Rockwell Scale) non-crushable, non-extractable organic granule with a specific gravity of 1.3. Size 12/20 for general application and size 8/12 for sloped ramps and turn areas.

G. Misc. Accessories: All items incorporated into this system shall be compatible with and approved by the coating manufacturer.

NOTE: Allow additional material for rough or irregular surfaces and for material loss during application.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate is ready to receive work; surface is clean, dry and free of substances that could affect bond.
- B. Do not begin work until concrete substrate has cured 28 days, minimum.
- C. Verify that the concrete meets the requirements of the coating manufacturer. Refer to Gaco Western's General Instruction GW-2-1 for complete information on the installation and finishing of concrete.
- D. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect and general contractor prior to starting the waterproofing application.

3.2 PREPARATION

- A. Clean substrate to remove any and all surface contaminants. Refer to Gaco Western's General Instructions GW-1-1 Surface Preparation.
- B. Mask off all adjoining areas that are not to receive the fluid applied waterproofing.
- C. Provide a suitable workstation to mix the coating materials.

3.3 INSTALLATION

- A. **Technical Advice:** The installation of this waterproofing membrane shall be accomplished in the presence of, or with the advice of the manufacturer's technical representative. Contact the nearest regional office for assistance.
- B. **Concrete Primer/Sealer:** Seal entire deck surface and all vertical or sloping surfaces of curbs, cants, parapets, etc., which are to receive coatings with one coat GacoFlex U-5677 Sealer at a rate of 1 gallon per 300 square feet (3.78 L / 27.9 m²). Allow to dry a minimum of 1 hour and no more than 24 hours before applying primer coat.

NOTE: Rough concrete surfaces may require coverage at a rate of one gallon per 200 square feet (3.78 L / 18.6m²).

Apply one coat of GacoFlex E-5320 by roller at the rate of 1 gallon per 200 square feet (3.78 L / 18.6 m²). Allow to dry a minimum of 24 hours. For maximum solvent resistance, see drying time directed in Gaco Western's General Instructions GW-2-2. Consult Gaco Western for alternate primer/sealer recommendations.

Alternative Concrete Primer/Sealer: Apply one coat of GacoFlex E-5511 to all surfaces to receive the fluid applied waterproofing, except areas previously caulked, flashed or fabric reinforced. Apply at a rate of one gallon per 150 sq. ft. (3.78 L / 13.9 m²) and allow to cure at least 6 hours, but no more than 72 hours before applying the basecoat.

- C. **Detail Work:** Install approved polyurethane caulking as required and tool the surface smooth. Install Gaco Western fabric reinforced flashing at all changes of plane and irregular surfaces using GacoFlex UB-64 Series Polyurethane with 66S Tape. Treat cracks in the surface with GacoFlex UB-64 Series Polyurethane and 66B tape. GacoFlex NF-621 Field Curing Neoprene sheet should be used for expansion or seismic joints, or joints showing movement over 1/8". Consult GW-621 Neoprene Sheet Flashing System for additional information.
- D. **Polyurethane Base Coat:** Apply one coat of GacoFlex UB-64 Series Polyurethane at a rate of 1.25 gallons per 100 sq. ft. (4.73 L / 9.3 m²) (20 mils wet (.51 mm)) to all areas to receive fluid applied waterproofing, including areas previously caulked, flashed or fabric reinforced. Allow the base coat to cure for at least 8 hours, but no more than 72 hours before applying the wear course. If 72 hours or more have elapsed, contact your Gaco Western representative for further instructions.
- E. **Polyurethane / GacoShell Wear Course:** Apply one coat GacoFlex UB-64 Series Polyurethane to ramp and turn areas at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²) (16 mils wet (.41 mm)). While the coating is still wet, broadcast GacoShell granule size 8/12 at 30 to 50% coverage, approximately 4 to 6 pounds per 100 sq. ft. (1.8-2.7 kg / 9.3 m²).

Apply a second coat of GacoFlex UB-64 Series Polyurethane to the entire deck surface including the ramp and turn areas at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²). While the coating is still wet, broadcast GacoShell granule size 12/20 into all areas EXCEPT THE RAMP AND TURN AREAS at 30 to 50% coverage, approximately 3 to 5 pounds per 100 sq. ft. (1.4-2.3 kg / 9.3 m²). Feather the distribution of the 12/20 granule into the edge of the 8/12 granule in the ramp and turn areas. Allow the wear course to cure for at least 8 hours, but no more than 72 hours before applying the finish coat.

NOTE: An additional top coat may be required in order to fully encapsulate granule when GacoShell coverage rate exceeds recommendations.

- F. *Alternate Wear Course Application may be substituted for 'E:'* Apply one coat GacoFlex UB-64 Series Polyurethane to all areas at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²) (16 mils wet (.41 mm)). While the coating is still wet, broadcast GacoShell granule size 12/20 at 30 to 50% coverage, approximately 3 to 5 pounds per 100 sq. ft. (1.4-2.3 kg / 9.3 m²). Allow to cure for at least 8 hours but no more than 72 hours.

Apply one additional coat of GacoFlex UB-64 Series Polyurethane TO RAMP AND TURN AREAS at a rate of 1 gallon per 100 sq. ft. (3.78 L / 9.3 m²) (16 mils (.41 mm) wet) and immediately broadcast 12/20 size GacoShell granule at 30 to 50% coverage, approximately 3 to 5 pounds per 100 sq. ft. (1.4-2.3 kg / 9.3 m²) into the wet coating. Allow the additional wear course to cure for at least 8 hours, but no more than 72 hours before applying the finish coat.

- G. **Finish Coat:** Prior to installing the finish coat sweep or vacuum away all loose GacoShell from the surface. Apply one coat of GacoFlex U-6402 Series Polyurethane in "pewter" color at a rate of 1.25 gallons per 100 sq. ft. (4.73 L / 9.3 m²) (20 mils (.51 mm) wet). Alternate finish coat colors are available using GacoFlex UA-60 or U-66 polyurethane coatings.

3.4 FIELD QUALITY CONTROL

- A. The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record actions in the field.
- B. Inspections: A minimum of three (Substrate, Application and Final) inspections, by an approved manufacturer's representative, will be required on all projects requiring a warranty.
- C. Thickness: Minimum over all dry film thickness of the completed fluid applied waterproofing, excluding GacoShell will average 42 mils (1.52 mm). Thickness including GacoShell will average approximately 60 mils (1.5 mm). Thickness of Ramps and Turn Radius including GacoShell will average approximately 90 mils (2.29 mm).